

No.

9000058



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Ferry-Morse Seed Company

Whereas, THERE HAS BEEN PRESENTED TO THE  
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT, 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

LIMA BEAN

'Packers'



Attest:

*Kenneth Evans*  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this 29th day of January in the year of our Lord one thousand nine hundred and ninety-three.

*Mike Esny*  
Secretary of Agriculture



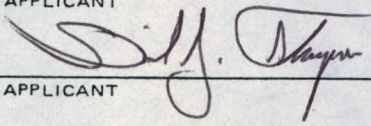
U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

## APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

|  |  |  |  |   |  |
|--|--|--|--|---|--|
| 1. NAME OF APPLICANT(S)<br>FERRY-MORSE SEED COMPANY  |  | 2. TEMPORARY DESIGNATION<br>ID-253   |  | 3. VARIETY NAME<br>PACKERS  |  |
| 4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code)<br>555 CODONI<br>P.O. BOX 4938<br>MODESTO, CALIFORNIA 95352   |  | 5. PHONE (Include area code)<br>209/579-7333   |  | FOR OFFICIAL USE ONLY<br>VPPO NUMBER<br>9000058   |  |
| 6. GENUS AND SPECIES NAME<br>Phaseolus lunatus L.  |  | 7. FAMILY NAME (Botanical)<br>Leguminosae  |  | FILING<br>DATE Jan 2, 1990<br>TIME 10:30 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M. |  |
| 8. KIND NAME<br>Lima bean  |  | 9. DATE OF DETERMINATION<br>Spring, 1989   |  | AMOUNT FOR FILING<br>\$ 1800.00 + 350.00<br>DATE Dec. 26, 1989; Jan 16, 1990                                    |  |
| 10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.)<br>CORPORATION   |  |  |  | AMOUNT FOR CERTIFICATE<br>\$ 250.00<br>DATE January 7, 1993   |  |
| 11. IF INCORPORATED, GIVE STATE OF INCORPORATION<br>CALIFORNIA   |  | 12. DATE OF INCORPORATION<br>7 APRIL 1969  |  |   |  |
| 13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS<br><del>DAVID J. THOMPSON</del> Lanny Gautney<br>FERRY-MORSE SEED COMPANY<br>P.O. BOX 4938 1010, San Juan Bautista<br>MODESTO, CALIFORNIA 95352-95045<br>PHONE (Include area code): (408) 637-7461 209/579-7333   |  |  |  |   |  |
| 14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED  |  |  |  |   |  |
| a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)   |  |  |  |   |  |
| b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement.   |  |  |  |   |  |
| c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety (Request form from Plant Variety Protection Office.)  |  |  |  |   |  |
| d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of Variety.   |  |  |  |   |  |
| e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership.   |  |  |  |   |  |
| 15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.) <input type="checkbox"/> Yes (If "Yes," answer items 16 and 17 below) <input checked="" type="checkbox"/> No   |  |  |  |   |  |
| 16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No   |  | 17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?<br>N/A<br><input type="checkbox"/> Foundation <input type="checkbox"/> Registered <input type="checkbox"/> Certified |  |   |  |
| 18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <input type="checkbox"/> Yes (If "Yes," give date) <input checked="" type="checkbox"/> No  |  |  |  |   |  |
| 19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" type="checkbox"/> No  |  |  |  |   |  |
| 20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.<br>The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.<br>Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties. |  |  |  |   |  |
| SIGNATURE OF APPLICANT<br>  |  |  |  | DATE<br>12 DECEMBER 1989  |  |
| SIGNATURE OF APPLICANT   |  |  |  | DATE  |  |



## INSTRUCTIONS

**General:** Send an original copy of the application and exhibits, at least 2,500 viable seeds (*furnish only untreated seed*), and \$1,800 fee (\$200 filing fee and \$1,600 examination fee) to the U. S. Department of Agriculture, Agricultural Marketing Service, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See Section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

### Item

- 9 Give the date the applicant determined that he had a new variety based on (1) the definition in Section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 14a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- 14b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 14c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 14d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 14e Section 52(4) of the Plant Variety Protection Act requires applicants to furnish a statement of the basis of the applicant's ownership. The applicant may be the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.
- 15 If "Yes" is specified (*seed of this variety be sold by variety name only as a class of certified seed*) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "No," he may change his choice. (See Section 180.16 of the Regulations and Rules of Practice.)
- 19 See Sections 41 (i,j) and 42 of the Plant Variety Protection Act and Section 180.7 of the Regulations and Rules of Practice for eligibility requirements.

**NOTE:** All information submitted in support of an application becomes PUBLIC INFORMATION once the certificate is issued. (See Section 180.17 of the Regulations and Rules of Practice.)





VARIETY: Packers (formerly FM-263 (formerly 1D-263 (formerly 1D-X1782-MsA(MT)1(W)E(GH)10(W)Ms(GH)Ms(C)Ms)))

Exhibit A: Origin and Breeding History of the Variety

Packers originated as a  $F_6$  single plant selection, following the pedigree selection method of breeding, from the cross designated 1D-X1782. In the field at Sun Prairie, Wisconsin, in the summer of 1976, the U.S.D.A. breeding line B2C as the seed parent was crossed with Jackson Wonder as the pollen parent; the resulting  $F_1$  seed was designated 1D-X1782. Three  $F_1$  seed of 1D-X1782 was planted in the field at Sun Prairie, Wisconsin, in the summer of 1978; the  $F_2$  seed was harvested as a bulk mass.

$F_2$  seed of 1D-X1782-Ms, was planted in the field at Sun Prairie, Wisconsin in the summer of 1979. The row rated good with segregation for good to medium concentration of maturity and heavy to medium productivity. Seven selections were made in the row; their  $F_3$  seed was harvested and held separately.

Through single seed descent each of the  $F_2$  selections was advanced to the  $F_4$  generation in the greenhouse during the winter of 1979-80 at Sun Prairie, Wisconsin.

$F_4$  seed of each of the original  $F_2$  selections was planted back to the field at Sun Prairie, Wisconsin, in the summer of 1980. The row designated 1D-X1782-MsA(MT)1 rated very good for a medium to heavy yield and a "baby lima" type seed. Thirteen selections were made in the row;  $F_5$  seed was harvested and held separately from each selection.

Twenty-five  $F_5$  seeds from each of four of the  $F_4$  selections were planted in the greenhouse at Sun Prairie, Wisconsin, in the summer of 1981.  $F_6$  seed was harvested and held separately from each plant.

$F_6$  seed from each of the greenhouse grown plants was seeded in the field at Sun Prairie, Wisconsin, in the summer of 1982. The row planted with seed of 1D-X1782-MsA(MT)1(W)E(GH)10 rated good for its earliness, heavy yield, and "baby lima" type seed. Two  $F_6$  selections were made and their  $F_7$  seed harvested and bulk massed.

$F_7$  seed of 1D-X1782-MsA(MT)1(W)E(GH)10(W)Ms was planted to the field at Laton, California, in the spring of 1983. The row rated very good for a green seeded "baby lima" type with early maturity.

Remnant  $F_7$  seed of 1D-X1782-MsA(MT)1(W)E(GH)10(W)Ms was planted in the greenhouse at San Juan Bautista, California, in the summer of 1983 for a small seed increase to the  $F_8$  generation.

$F_8$  seed of 1D-X1782-MsA(MT)1(W)E(GH)10(W)Ms was planted to 250 foot of double row at San Juan Bautista, California, in the



summer of 1984. Seed vigor was noted as excellent and seedling emergence as rapid. No offtypes were noted among approximately 1000 plants. In anticipation of testing the line as a possible new variety, it was redesignated as 1C-263 in February, 1985.

In the summer of 1985 1C-263 was further evaluated in Sun Prairie, Wisconsin, and underwent further seed increase in California. In the Wisconsin evaluation 1C-263 rated good to very good with good productivity. At San Juan Bautista, California, the 250 foot of double row for seed increase rated very good for a heavy load of pods under mild to cool temperature conditions.

In anticipation of evaluation under commercial conditions in 1987, 2500 foot of double row of 1C-263 was planted for seed increase at San Juan Bautista, California, in the summer of 1986. The planting rated good for a medium short, compact plant, concentrated maturity, and very uniform for type. No offtypes were noted in the line. Two hundred and fifty pounds of seed was harvested for commercial evaluation and further seed increase in 1987. For commercial sampling 1C-263 was redesignated FM-263.

In 1987 commercial evaluations in Wisconsin and New York indicated good cold tolerance of FM-263. One third acre of seed increase was planted at San Juan Bautista, California, in the summer of 1987. The field rated very good, was uniform for type, and free of offtypes. FM-263 was considered uniform and reproducible and could be increased as a new variety.

The decision to increase and release FM-263 as a new variety was made in the spring of 1989. Five hundred pounds of FM-263 was transferred to the Quality Control department for stock seed production in Idaho and California in the summer of 1989. On October 4, 1989, FM-263 was named Packers.



VARIETY: Packers (formerly FM-263 (formerly 1D-263 (formerly 1D-X1782-MsA(MT)1(W)E(GH)10(W)Ms(GH)Ms(C)Ms)))

Exhibit B: Data Indicative of Novelty

Packers is most similar to the baby lima (sieva) cultivar Eastland. Packers can be distinguished from Eastland by fewer days to first open flower, a narrower pod thickness, and a more curved pod.

A. Days to first open flower

1. Sun Prairie, Wisconsin. Planted June 16, 1987.

| days to first<br>open flower | <u>Packers</u> | <u>Eastland</u> | <u>diff.</u> | <u>t</u> | <u>d.f.</u> | <u>p</u> |
|------------------------------|----------------|-----------------|--------------|----------|-------------|----------|
|                              | 47.6           | 49.5            | 1.9          | 13.3     | 48          | <.001    |

2. San Juan Bautista, California. Planted June 19, 1987.

| days to first<br>open flower | <u>Packers</u> | <u>Eastland</u> | <u>diff.</u> | <u>t</u> | <u>d.f.</u> | <u>p</u> |
|------------------------------|----------------|-----------------|--------------|----------|-------------|----------|
|                              | 53.1           | 56.9            | 3.8          | 13.7     | 48          | <.001    |

3. Sun Prairie, Wisconsin. Planted July 6, 1989.

| days to first<br>open flower | <u>Packers</u> | <u>Eastland</u> | <u>diff.</u> | <u>t</u> | <u>d.f.</u> | <u>p</u> |
|------------------------------|----------------|-----------------|--------------|----------|-------------|----------|
|                              | 47.3           | 48.5            | 1.2          | 6.2      | 48          | <.001    |

B. Pod thickness at green-shell maturity (developing seed at maximum thickness.)

1. San Juan Bautista, California. Planted July 10, 1986.  
(measurements made between September 10-20, 1986.)

| pod<br>thickness(mm) | <u>Packers</u> | <u>Eastland</u> | <u>diff.</u> | <u>t</u> | <u>d.f.</u> | <u>p</u> |
|----------------------|----------------|-----------------|--------------|----------|-------------|----------|
|                      | 6.7            | 7.2             | 0.5          | 6.02     | 198         | <.001    |

2. Sun Prairie, Wisconsin. Planted July 6, 1989.  
(measurements made September 21, 1989.)

| pod<br>thickness(mm) | <u>Packers</u> | <u>Eastland</u> | <u>diff.</u> | <u>t</u> | <u>d.f.</u> | <u>p</u>  |
|----------------------|----------------|-----------------|--------------|----------|-------------|-----------|
|                      | 7.6            | 8.0             | 0.4          | 3.25     | 91          | .005-.001 |

3. San Juan Bautista, California. Planted June 21, 1989.  
(measurements made November 1, 1989.)

| pod<br>thickness(mm) | <u>Packers</u> | <u>Eastland</u> | <u>diff.</u> | <u>t</u> | <u>d.f.</u> | <u>p</u> |
|----------------------|----------------|-----------------|--------------|----------|-------------|----------|
|                      | 6.8            | 7.0             | 0.2          | 4.04     | 198         | <.001    |

C. Pod curvature of Packers compared to the pod straightness of Eastland is demonstrated in the accompanying photograph.



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'Packers'



PHOTO TO ACCOMPANY PLANT VARIETY PROTECTION APPLICATION  
FOR LIMA BEAN, PACKERS

ILLUSTRATING POD CURVATURE DIFFERENCE BETWEEN  
PACKERS AND EASTLAND (EXHIBIT B)



## OBJECTIVE DESCRIPTION OF VARIETY

LIMA BEAN (PHASEOLUS LUNATUS)

REFERENCES: See Reverse.

|   |   |
|---|---|
| NAME OF APPLICANT(S)<br>Ferry-Morse Seed Company  | FOR OFFICIAL USE ONLY                                     |
| ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)<br>PO Box 4938<br>Modesto, CA<br>95352-4938 | PVPO NUMBER<br>9000058                                    |
|   | VARIETY NAME OR TEMPORARY DESIGNATION<br>PACKERS (FM-263) |

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (e.g.  or ) when number is either 99 or less or 9 or less.

## 1. TYPE:

|                                |                 |                |                  |
|--------------------------------|-----------------|----------------|------------------|
| <input type="text" value="1"/> | 1 = GREEN SHELL | 2 = DRY EDIBLE | 3 = DUAL PURPOSE |
|--------------------------------|-----------------|----------------|------------------|

## 2. REGION OF ADAPTABILITY IN THE U.S.:

|                                |                  |               |                  |               |               |
|--------------------------------|------------------|---------------|------------------|---------------|---------------|
| <input type="text" value="2"/> | Best adapted in: | 1 = NORTHWEST | 2 = NORTHCENTRAL | 3 = NORTHEAST | 4 = SOUTHEAST |
|                                |                  | 5 = SOUTHWEST | 6 = MOST REGIONS |               |               |

## 3. MATURITY (Days from seeding to first harvest):

|  |                                   |   |   |
|--|-----------------------------------|---|---|
| <input type="text" value="10"/> <input type="text" value="2"/> | GREEN SHELLS                      | <input type="text" value=""/> <input type="text" value=""/> | DRY SEEDS   |
| <input type="text" value="0"/> <input type="text" value="7"/>  | No. of days Earlier than: . . . . | <input type="text" value="7"/>                              | 1 = HENDERSON BUSH    2 = THAXTER    3 = BURPEE'S IMPROVED BUSH |
| <input type="text" value=""/> <input type="text" value=""/>    | No. of days Later than . . . . .  | <input type="text" value=""/>                               | 4 = SIEVA    5 = FLORIDA BUTTER    6 = KING OF THE GARDEN       |
|  |                                   |   | 7 = OTHER (Specify) <u>EASTLAND</u>                             |

## 4. PLANT:

|  |  |   |   |
|--|--|---|---|
| <input type="text" value="1"/>   | 1 = DETERMINATE, ERECT BUSH                    | 2 = DETERMINATE, SPRAWLING BUSH                               | 3 = DETERMINATE, SEMIPOLE   |
|  | 4 = INDETERMINATE, POLE                        |   |   |
| <input type="text" value="0"/> <input type="text" value="4"/> <input type="text" value="2"/> | CM. HEIGHT                                     | <input type="text" value="0"/> <input type="text" value="2"/> | CM. LENGTH OF FIRST INTERNODE ABOVE PRIMARY LEAF  |
| <input type="text" value="4"/> <input type="text" value="5"/>                                | CM. SPREAD                                     | <input type="text" value="0"/> <input type="text" value="4"/> | NUMBER INTERNODES ON MAIN STALK BETWEEN PRIMARY LEAF AND BASE OF TERMINAL INFLORESCENCE |
| <input type="text" value="0"/> <input type="text" value="8"/>                                | MM. STALK DIAMETER ABOVE FIRST TRIFOLIATE LEAF |   |   |
| <input type="text" value="2"/>   | Main stalk: 1 = BRITTLE    2 = WIREY           | <input type="text" value="1"/>                                | Main stalk: 1 = STOUT    2 = THIN   |
| <input type="text" value="3"/>   | Flower position: }                             |   |   |
| <input type="text" value="3"/>   | Pod position: }                                |   |   |
|  |  |   | 1 = LOW, CONCENTRATED    2 = HIGH, CONCENTRATED    3 = SCATTERED                        |

## 5. LEAVES:

|                                  |  |   |                                |          |            |   |   |
|----------------------------------|--|---|--------------------------------|----------|------------|---|---|
| <input type="text" value="1"/>   | 1 = SMOOTH                               | 2 = WRINKLED                              | <input type="text" value="2"/> | 1 = DULL | 2 = GLOSSY | <input type="text" value="1"/>                                | Thickness: 1 = THIN    2 = MEDIUM    3 = THICK                  |
| <input type="text" value="1.5"/> | Size: 1 = SMALL (Sieva)                  | 2 = MEDIUM                                | 3 = LARGE (Prizetaker)         |          |            | <input type="text" value="0"/> <input type="text" value="5"/> | CM. PETIOLE LENGTH (To basal leaflets of first trifoliate leaf) |
| <input type="text" value="2"/>   | Tip shape of center leaflet: 1 = ROUNDED | 2 = TAPER POINTED                         | 3 = SHARP POINTED              |          |            |   |   |
| <input type="text" value="1"/>   | PUBESCENCE - Dorsal: }                   |   |                                |          |            |   |   |
| <input type="text" value="1"/>   | PUBESCENCE - Ventral: }                  |   |                                |          |            |   |   |
|                                  |  |   |                                |          |            |   | 1 = NONE    2 = SLIGHT    3 = CONSIDERABLE                      |
| <input type="text" value="3"/>   | Color: 1 = GRAY GREEN                    | 2 = MEDIUM GREEN (Burpee's Improved Bush) | 3 = DARK GREEN (Sieva)         |          |            |   |   |

## 6. FLOWERS:

|   |   |   |                           |           |            |                           |
|---|---|---|---------------------------|-----------|------------|---------------------------|
| <input type="text" value="1"/>                                | Color: 1 = WHITE                        | 2 = CREAM   | 3 = PINK                  | 4 = LILAC | 5 = PURPLE | 6 = OTHER (Specify) _____ |
| <input type="text" value="1"/> <input type="text" value="0"/> | Racemes: CM. TO BASE OF TERMINAL FLORET | <input type="text" value="1"/> <input type="text" value="6"/> | NUMBER FLOWERS PER RACEME |           |            |                           |



## 7. FRESH PODS:

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Color: 1 = LIGHT GREEN (Thaxter) 2 = MEDIUM GREEN (Florida Butter) 3 = DARK GREEN (Thorogreen Early)  
 4 = OTHER (Specify) \_\_\_\_\_

CM. LENGTH       MM. WIDTH (Between sutures)       MM. THICKNESS        $\frac{\text{WIDTH}}{\text{THICKNESS}} \times 10$

Cross section pod shape: 1 = FLAT 2 = OVAL 3 = ROUND      Curvature: 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED

MM. SPUR LENGTH      Spur: 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED

Surface: 1 = SHINY 2 = DULL      Surface: 1 = SMOOTH 2 = BLISTERED

Pubescence: 1 = NONE 2 = SPARSE 3 = CONSIDERABLE      NUMBER OF SEEDS PER POD

NUMBER PODS PER PLANT (Once over harvest)      Machine harvest: 1 = ADAPTED 2 = NOT ADAPTED

Condition of pods at once-over harvest:   % DRY       % YELLOW       % GREEN

## 8. SEEDS:

1 = MONOCHROME 2 = POLYCHROME      1 = SHINY 2 = DULL

Primary color: 1 = WHITE 2 = GREENISH WHITE 3 = GREEN 4 = YELLOW 5 = BUFF 6 = TAN  
  Secondary color: 7 = BROWN 8 = PINK 9 = RED 10 = PURPLE 11 = BLACK 12 = OTHER (Specify) \_\_\_\_\_

Color pattern: 1 = SPLASHED 2 = MOTTLED 3 = STRIPED 4 = FLECKED 5 = DOTTED

Secondary color location: 1 = HILAR RING 2 = HILAR SURFACE 3 = STROPHIOLE 4 = MICROPYLE 5 = SIDES  
 6 = DORSAL SURFACE 7 = NOT RESTRICTED TO ANY AREA  
 8 = COMBINATION OF LOCATIONS (Specify) \_\_\_\_\_

Hilar ring: 1 = NOT PRESENT 2 = NARROW 3 = WIDE 4 = BUTTERFLY SHAPED      Vein-like under coat pattern: 1 = ABSENT 2 = PRESENT

Cotyledon color: 1 = WHITE 2 = PALE GREEN 3 = GREEN      Seed coat 1 = SMO 2 = WRN

## 9. SEED SHAPE AND SIZE:

Hilum view: 1 = FLAT 2 = ELLIPTICAL 3 = OVAL 4 = ROUND      Side view: 1 = OVAL 2 = ROUND 3 = KIDNEY 4 = TRUNCATE ENDS

Cross section: 1 = FLAT 2 = ELLIPTICAL 3 = OVAL 4 = ROUND       GM. WEIGHT PER 100 SEEDS

Classification: 1 = SIEVA 2 = INTERMEDIATE 3 = FORDHOOK

MM. WIDTH (Dorsal to ventral)       MM. THICKNESS (Side to side)

MM. LENGTH        $\frac{\text{WIDTH}}{\text{THICKNESS}} \times 10$

## 10. ANTHOCYANIN: (1 = Absent, 2 = Present)

FLOWERS      STEM      PODS      SEEDS      LEAVES

## 11. DISEASE RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

|  |   |  |
|--|---|--|
| <input type="text" value="0"/> RUST (Specify race) _____ | <input type="text" value="0"/> ANGULAR LEAF SPOT      | <input type="text" value="0"/> BACTERIAL WILT        |
| <input type="text" value="0"/> COMMON BEAN MOSAIC        | <input type="text" value="0"/> ANTHRACNOSE            | <input type="text" value="0"/> LIMA BEAN MOSAIC      |
| <input type="text" value="0"/> SOUTHERN BEAN MOSAIC      | <input type="text" value="0"/> FUSARIUM ROOT ROT      | <input type="text" value="0"/> CURLY TOP             |
| <input type="text" value="0"/> N.Y. 15 BEAN MOSAIC       | <input type="text" value="0"/> DOWNY MILDEW           | <input type="text" value="0"/> POWDERY MILDEW        |
| <input type="text" value="0"/> BEAN MOSAIC VIRUS 4       | <input type="text" value="0"/> HALO BLIGHT            | <input type="text" value="0"/> FUSCOUS BLIGHT        |
| <input type="text" value="0"/> ALFALFA MOSAIC VIRUS      | <input type="text" value="0"/> ALFALFA MOSAIC VIRUS 2 | <input type="text" value="0"/> POD MOTTLE VIRUS      |
| <input type="text" value="0"/> RED NODE VIRUS            | <input type="text" value="0"/> ROOT KNOT NEMATODE     | <input type="text" value="0"/> OTHER (Specify) _____ |

7



**12. INSECT RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)**

|                                       |   |   |  |
|---------------------------------------|---|---|--|
| <input type="text" value="0"/> APHIDS | <input type="text" value="0"/> LEAF HOPPERS | <input type="text" value="0"/> POD BORER        | <input type="text" value="0"/> LYGUS                 |
| <input type="text" value="0"/> THRIPS | <input type="text" value="0"/> WEAVILS      | <input type="text" value="0"/> SEED CORN MAGGOT | <input type="text" value="0"/> OTHER (Specify) _____ |

**13. PHYSIOLOGICAL RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)**

|                                     |                                     |  |  |
|-------------------------------------|-------------------------------------|--|--|
| <input type="text" value="0"/> HEAT | <input type="text" value="0"/> COLD | <input type="text" value="0"/> DROUGHT | <input type="text" value="0"/> OTHER (Specify) _____ |
|-------------------------------------|-------------------------------------|--|--|

**REFERENCES**

The following publications may be used as references in completing this form:

1. Beans of New York. Vol. 1 Part II of Vegetables of New York. U.P. Hedrick et al. J. B. Lyon Company, Albany, N.Y. 1931.
2. Yarnell, S. H., Cytogenetics of the Vegetable Crops IV. Legumes. Bot. Rev. 31:247 - 330. 1965.
3. USDA Yearbook of Agriculture. 1937.

COLOR: Nickerson's or any recognized color fan may be used to determine the colors.

COMMENTS:



VARIETY: Packers (formerly FM-263 (formerly 1D-263 (formerly 1D-X1782-MsA(MT)1(W)E(GH)10(W)Ms(GH)Ms(C)Ms)))

Exhibit D: Botanical Description of the Variety

Seed germination and seedling emergence is rapid and uniform under moderately warm soil conditions (60-70°F). Seedling growth is moderately vigorous. Flowering begins early (earlier than most other known commercial cultivars) and pod setting begins early but is also dependent on warm, relatively humid temperatures (75-90°F, 70-90%RH) for concentrated set. Pod setting and concentration of set is earlier and more concentrated than with other cultivars, but the yield potential is lessened as a result.

Plants are small, erect bush types with determinate growth terminating in inflorescences with 12-16 or more flower buds. Leaves are trifoliate, ovate, acute, with entire margins, 8-14 cm long, dark green, smooth, glabrate, slightly shiny. Leaves are relatively numerous. Flowers are white and small; flowering is continuous until a full pod load, conditioned by the physiological vigor of the plant, is set.

Pods are 6-8 cm long, 19-22 mm from suture to suture, 5-8.5 mm thick at largest immature seed stage. Pods are relatively smooth, dark green, slight curvature, straight spur 4-6 mm long, with 2-3 seed per pod.

Seeds are lime green colored, smooth, 14.5-19 mm long, 10-12 mm (dorsal to ventral) width, and 5.6-8.4 mm (side to side) thickness. Seed size is medium small, but plump for a sieva type lima.



EXHIBIT "E"

Plant Variety Protection Application

No: 9000058

STATEMENT OF OWNERSHIP

I, George R. Allbritten, Secretary of Ferry-Morse Seed Company do hereby certify that Ferry-Morse Seed Company is the breeder and owner of that certain variety namely, Bean, Lima, Packers

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for which an application for Plant Variety Protection has been filed.

In witness whereof I have executed this statement of ownership and caused the Ferry-Morse Corporate Seal to be affixed this 27 day of April, 1990.

  
Secretary

SEAL